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This is a contribution from *Figurative Meaning Construction in Thought and Language*.

Edited by Annalisa Baicchi.

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Cutting and breaking metaphors of the self and the Motivation & Sedimentation Model

Simon Devylder and Jordan Zlatev

Why are expressions of irreversible separation (e.g. *I feel torn apart*) used to speak about the self? Are they to be treated as metaphorical? We address these questions by using concepts and methods from cognitive semiotics, and especially *the conceptual-empirical loop*. We develop identification and classification procedures based on intersubjective intuitions, and apply these to data from a corpus of personal descriptions of traumatic experiences. To provide a principled explanation of these expressions, we employ the Motivation & Sedimentation Model (hereafter, MSM), which distinguishes between three interacting levels of meaning making: the Situated, the Sedimented, and the Embodied. On this basis we provide a definition of metaphor, leading to the conclusion that most instances of expressions in the sample would qualify as metaphorical, while affirming that metaphoricity is a scalar notion.

Keywords: cognitive semiotics, Conceptual Metaphor Theory, metaphoricity, iconicity, irreversible separation

1. Introduction

On March 14, 2015, after a six-month period of silence, the MyPTSD forum user “Muse” writes a long post in the trauma diary section, including the passage in (1).

- (1) *I feel like I can't take it anymore, can't keep reliving it. New flashbacks and I feel really **torn apart** and am led into further dissociative episodes.*

Behind these words, we can discern a traumatic event, an experiencer, a bodily reaction to the event, an attempt to make sense out of this experience, and a desire to describe it in a way that will be understood by other forum users. We learn from earlier posts of Muse that she suffers from post-traumatic stress disorder (PTSD) as a result of sexual abuse when she was a child. The MyPTSD forum provides a communicative platform where users like Muse are given the opportunity to share their story freely thanks to anonymity and are helped by other users who are trying

to cope with their own traumatic experiences. The community exchanges words of comfort, and testimonies about the way they manage or fail to cope with their problems. We can say that on March 14, 2015 Muse decides to hit the keyboard and tell her story at a specific point in time, in a specific context, with the specific intention to share her experience with other forum users. This is a very *situated* form of meaning making, highly dependent on context, as well as on specific norms shared by the local community. For example, telling her story in a face-to-face psychotherapy session would involve a very different context and set of norms. But is this situated level of meaning-making sufficient to make sense of (1)?

Muse writes about her difficulty to cope with flashbacks of the trauma experienced as a child. PTSD flashbacks throw victims back into the originating traumatic experience, and typically involve intense bodily sensations. In writing another page of her public diary on these recurring flashbacks and mentioned episodes of dissociation, Muse faces the difficulty of finding the words that will both accurately describe this extremely distressful experience and be understood by readers who have not felt it themselves. Using expressions of cutting and breaking (e.g. *I feel really torn apart*) to describe events affecting the self may function as communicatively effective *metaphors*, since they rely on experienced *resemblance* (Zlatev, Blomberg, & Magnusson, 2012; Stampoulidis, Bolognesi & Zlatev, 2019) between the bodily sensation and the physical act of (violent) separation. There are many ways to refer to a separation event, but the slow, painful, and lasting brutality of a sexual abuse is arguably more aptly conveyed by the phrase *tearing apart* than by other separation constructions like *break*, *snap*, or *cut*. Thus, to truly make sense of (1), as both ordinary speakers and linguists, we need recourse to a level of meaning that involves bodily experience and the capacity to discern analogies, or else (diagrammatic) *iconicity* (Devylder, 2018), i.e. resemblance between expression and content, or between different contents (see Section 5). We may refer to this as the *Embodied* level of meaning making.

Finally, we need a level that bridges the two, which consists of both linguistic and cultural norms that have both a larger scope, and are more firm than the situated norms mentioned above (Zlatev & Blomberg, 2019). This includes conventionalized linguistic constructions, including *metaphores*, which “combine specific lexical and grammatical form with specific conceptual content and with specific affective value and pragmatics.” (Cameron & Deignan, 2006, p. 674). We may indeed confirm that the expression *tear me apart* was not invented by Muse on the fly, but can be found as a separate sense of the English verb *tear* in a good English dictionary, qualifying it as a conventional metaphor. But how did it become so in the first place? Using a concept, itself based on metaphor, from phenomenology (Zlatev, 2016, 2018; Zlatev & Blomberg, 2016), we may answer: through the *sedimentation* of norms based on situated acts of meaning making, originally motivated by the embodied level. Metaphors such as those used by Muse in (1) are thus doubly motivated, by both the Embodied and the Sedimented level of meaning, rather in line

with the *Career of Metaphor* account, according to which expressions like *feel torn apart* can be understood through both comparison and categorization processes (Bowdle & Gentner, 2005).

In short, these are the basic ideas behind the *Motivation & Sedimentation Model* (MSM), which are presented in more detail in Section 5 in order to help explain the phenomenon that is the focus in the chapter: metaphorical English expressions of self disruption, extended from expressions denoting events of cutting and breaking; in short, cutting and breaking metaphors of the self. Our approach derives from *cognitive semiotics*: the transdisciplinary field of meaning-making, combing concepts of methods from linguistics, semiotics and cognitive science (Konderak, 2018; Sonesson, 2012; Zlatev, 2015). Among the many specific theories, approaches and phenomena studied in this field,¹ there is a core principle that we capitalize upon: *the conceptual-empirical loop*. This encourages us to begin the analysis with as few preconceptions as possible, and to propose definitions of the objects of study that are intuitive, i.e. intersubjectively valid. Only then can we perform an informed empirical analysis of the phenomenon, based on data from corpora and experimentation. Finally, we return to the concepts we started with, with enriched understanding based on the empirical research. This general principle implies methodological pluralism, including the systematic use of intuition, interpersonal corroboration and observation (Zlatev, 2009, 2015). Schematically, this may be illustrated as in Figure 1.

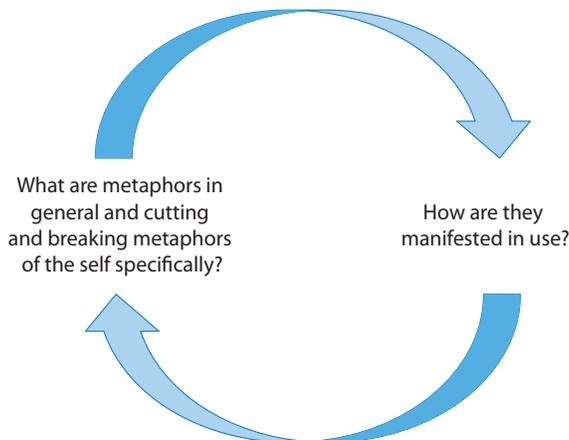


Figure 1. The conceptual-empirical loop applied to the present topic (adapted from Zlatev, 2015, p. 1058)

1. Such as the emergence of symbols in ontogeny (Daddesio, 1995), mental imagery (Thompson, 2007), the development of children's gestures (Andrén, 2010), subjectivity in language (Brandt, 2013), and referential iconicity in music and speech (Giraldo, 2018).

This principle also guides the structure of the remainder of this chapter. In Section 2, we delve into the “what” questions, providing both a review of relevant background research in the field and preliminary definitions of some main concepts, showing a gap in the literature: expressions of physical separation are commonly applied in English to the self, but there is yet no adequate explanation for why this is the case. If it involves metaphor, under what understanding of this notion can such expressions be regarded as metaphorical? To answer this question, we need to introduce new concepts, one of which is “expressions of irreversible non-actual separation”, which can *potentially* serve as cutting and breaking metaphors of the self. On this basis, in Section 3 we present an intersubjectively valid identification procedure for the relevant expressions and four different “dimensions of the self” (a notion that we define with the help of a specific application of the conceptual-empirical loop), which are described as being affected by the expressions in question.

Section 4 is devoted to probing the data with the help of statistical analysis. In particular, we show that there is a strong correlation between expression types and self dimensions, which shows that the distribution of the expressions is not random but rather motivated. What they are motivated by, however, remains an open question. With the help of the Motivation & Sedimentation Model, in Section 5 we show that they are at least potentially metaphorical, as metaphoricity is a scalar notion, requiring the interplay of the three different levels of meaning making. Finally we conclude by summarizing our main contributions in Section 6.

2. What: Cutting and breaking metaphors of the self

2.1 Separation: Reversible and irreversible, actual and non-actual

Defining metaphor is controversial business, and even more troublesome is the concept of the “self”. We will return to both in due time, but we may begin by stating the relatively uncontroversial assumption, stemming from the etymology of the term, that metaphor involves the interaction of two “things” (concepts, domains, frames, meanings...), where properties and relations from one are transferred to the other. Despite that we do not follow Conceptual Metaphor Theory (hence, CMT) in most respects (as we explain in the following sections), we may adopt its terminology of metaphor linking different *domains of experience*. For current purposes, it is reasonable to take the domain of physical separation as a likely “source” when turning to expressions where what is being separated is the immaterial self. Separation may be defined as *a change-of-state event leading to an observable disruption in the continuity of a given figure*. Separation events include irreversible events such as breaking a teapot, reversible events such as opening a jar, but exclude

events of destruction where there is no observable disruption in the continuity of the affected object, such as crushing a plastic cup. Thus, the “cutting and breaking” (hence, C&B) events that have been much analyzed in the literature can be seen as corresponding to the irreversible subtype of separation events, and may be defined as *change-of-state events leading to an observable disruption in the continuity of a figure in an irreversible manner*.

Different approaches have been adopted to analyze the semantics of C&B events. Some authors have proposed different typologies based on their distribution over distinct argument structures (Devylder, 2016, 2017; Fillmore, 1970; Guerssel, Hale, Laughren, Levin, & Eagle, 1985; Levin, 1993; Levin & Rappaport Hovav, 1995, 2011). Others have adopted the well-tried method of eliciting data in a standardized way across a wide range of languages (Croft & Poole, 2008; Kay & Regier, 2003; Levinson & Meira, 2003; Regier, Kay, & Khetarpal, 2007) and investigated how speakers of different languages categorize events involving cutting and breaking through the verbs used to describe them (Majid, Bowerman, Van Staden, & Boster, 2007; Majid, Van Staden, Boster, & Bowerman, 2004). Such studies showed that genealogically distinct languages shared some patterns of semantic categorization, for example with regards to the predictability of the locus of separation. At the same time, they also demonstrated a considerable degree of cross-linguistic variation in the number of categories and in the placement of their boundaries. For instance, you can *break* a plate and a stick, but not a piece of cloth in English, whereas Mandarin speakers can use *noŋ4-puo4* to describe a C&B event affecting a cloth and a plate, but not a stick (Pye, Loeb, & Pao, 1996). Variation of category boundaries also occurs across closely related languages like English and German (Majid, Gullberg, Van Staden, & Bowerman, 2007). Thus, there is both cross-linguistic variation, and potential “universals” in the semantics of cutting and breaking. But what is virtually unknown is whether these patterns carry over to metaphorical extensions. Taylor (2007, p. 335) concludes that there are “many open questions which go well beyond the scope of the present project, [...] one concerns the availability of C&B verbs for metaphorical extension beyond the domain of material separation.”²

Indeed, it is quite obvious that C&B verbs in English are often recruited to refer to events where there is no observable disruption in the continuity of the affected figure, as in (2) and (3):

- (2) *She broke my heart.*
- (3) *My computer broke.*

2. Some of the few studies on the metaphorical extension of C&B expressions are those of Bouveret & Sweetser (2009) and Devylder (2016).

While many would agree to treat (2) as metaphorical, few would do so for (3), since the event described is undoubtedly physical. Yet there is no observable separation of the figure (*computer*) involved. A broken computer implies loss of functionality, which may often be the result of physical breaking, but the result of an event and the event itself should not be conflated. Thus, what is common to (2) and (3) is a puzzle, and as Fujii, Radetzky, and Sweetser (2012) ask: “how can we account for physical meanings of *break* when no physical breaking is taking place?”

We may attempt to answer this question by stating that both (2) and (3) involve *non-actual separation*, which can be defined as *change-of-state events leading to a non-observable disruption in the continuity of a figure*. This is closely related to the notion of *non-actual motion*, (Blomberg, 2015; Blomberg & Zlatev, 2014) and is similarly uncommitted to whether expressions of non-actuality are motivated by metaphorical processes, or by other structures of embodied (inter)subjectivity such as enactive perception or “visual scanning” (Blomberg & Zlatev, 2014). Since metaphoricity is ultimately decided on the *Situated level* (Müller, 2008), as illustrated in the Introduction, it is impossible to determine which expression functions as a metaphor outside a specific context, as we elaborate in Section 5. For now, we can state that we can delineate the type of C&B expressions that could be potential cutting and breaking metaphors of the self as expressions of *irreversible non-actual separation* (INAS).

2.2 Irreversible, non-actual separation of the self

Within CMT, examples such as (1) and (2) could be analyzed as linguistic realizations of a “conceptual metaphor”, a hypothetical structure in the “cognitive unconscious” (Lakoff & Johnson, 1999) where a source domain (here: an actual separation event) is mapped onto a target domain (here: the self). Without any motivation from the extensive philosophical tradition on the nature of the self, in particular from phenomenology (for a discussion, see Zahavi, 2014), Lakoff (1996, p. 102) proposed a separation-based metaphorical analysis according to which “we are conceptualizing ourselves as split in two, as if we were made up of an ensemble of at least two parts”. Lakoff and Johnson (1999, p. 269) claim that this primary division underlies all conceptual metaphors of the self:

It is not a trivial fact that every metaphor we have for our inner life is a special case of a single general metaphor schema. This schema reveals not only something deep about our conceptual systems but also something deep about our inner experience, mainly that we experience ourselves as *split*. [our emphasis]

Lakoff (1996) and Lakoff and Johnson (1999) use the terms *Subject* and *Self* for the two parts of what they call *the Person*.³ They define the Subject as “the locus of reason and that has an existence independent of the body” (*ibid*, pp. 268–269), in contrast with the Self, which “includes the body, social roles, past states, and actions in the world.” Based on this initial dichotomy, the authors maintain that all expressions referring to the personal domain are governed by a “General Subject-Self Metaphor.” However, this dichotomy does not systematically account for all expressions where (irreversible) non-actual separation of the self is involved. A specific example is Lakoff and Johnson’s (1999, p. 276) analysis of the INAS presupposing expression (type) *pulling oneself together*. Lakoff and Johnson (*ibid*, pp. 275–276) analyze (4) as a linguistic occurrence resulting from the mapping labeled as ATTENTIONAL SELF CONTROL IS HAVING THE SELF TOGETHER, and identify this mapping as a special case of THE SCATTERED SELF METAPHOR:

[I]n the Subject-Self metaphor system, the ability to focus attention is an ability of the Subject. Control of attention is part of the Subject’s normal self-control. [...] [N]ormal self-control is conceptualized as the Subject and Self being at the same place. When the Self is scattered, Subject and Self cannot be in the same place and control is impossible.

(4) *Pull yourself together!*

According to the authors, (4) would mean that the addressee is asked to “regroup” the Subject and the Self in one place. While this analysis may account for the interpretation of a decontextualized occurrence like (4), it appears to be inadequate for several occurrences of *pulling oneself together* in context, such as those in (5–9), taken from the MyPTSD forum mentioned earlier.

- (5) *I did not want to leave the house because I knew I was capable of breaking down at any moment. I walked there and was crying there trying to pull myself together. I walked in knowing I could break down and hoping no-one talked to me.*
- (6) *Feeling pretty down. Kids are all in bed and immediately I collapse and start to cry. Coping in the day then falling apart at night and pulling myself together again to prepare for another day.*
- (7) *I’m just feeling sorry for myself and enjoying it and all that sort of thought, at the end of which I’ll kind of say, well, I have to pull myself together.*

3. In contrast, we use the term “self” (without capitalization) in a broader sense, encompassing all subjective experience related to a given person (Zahavi, 2014).

- (8) *My mom was in the kitchen making dinner. I went into the bathroom and stared in the mirror, and then collapsed on the floor crying uncontrollably. It was such a wrenching moment. Finally, I **pulled myself together** and went into the kitchen.*
- (9) *I was unprepared for the intense wave of grief that washed over me at that moment. I missed him. I felt bereft. Of course, I thought immediately, he is still present in the same ways he has always been present—so what is going on here? I **pulled myself together** and we went on with the session. This jumble of emotions was too new and too raw to mention at the time.*

It is not so much the degree of generality of Lakoff and Johnson's analysis that is problematic. Broad and inclusive definitions are often necessary for a theory to be applicable to the diversity of specific cases. The problem is rather that the notion of regrouping one's Subject and Self in the same place does little to help explain contextually situated occurrences of *pulling oneself together* as those in (5) to (9). How informative is it to state that they are all instantiations of the conceptual metaphor ATTENTIONAL SELF CONTROL IS HAVING THE SELF TOGETHER? There is admittedly a notion of "control" underlying (5–9), but not a control over the person's *attention*, or control over regrouping one's "locus of consciousness" (i.e. Subject) and "the body, social roles, past states, and actions in the world" (i.e. Self). None of the above examples explicitly mark or implicitly indicate that the speakers experience a locative discrepancy between their Subject and Self. The latter, in the understanding of Lakoff and Johnson, is related to the concept of *face* (Brown & Levinson, 1987), but the meaning of the English expression *pulling oneself together* cannot be adequately accounted for in terms of attempting to regroup one's locus of consciousness and one's social roles in one conceptual location (Lakoff & Johnson, 1999).

In sum, we have noted a gap in the literature. Expressions of physical separation are commonly applied in English to the self, but there is yet no adequate explanation for why this is the case, and if it involves metaphor. We introduced the notion of irreversible non-actual separation (INAS) expressions to denote expression types like *break one's heart*, which could potentially be used metaphorically in a specific context. But to decide whether this is the case or not, we need both authentic linguistic data, at least basic knowledge of the context in which it was produced, and a methodology relying on a disciplined application of intuition. This is what we proceed to do in the following section.

3. How: Identifying C&B metaphors of the self in English Corpora

In the following sub-sections we describe the linguistic data that were used in the study and detail the procedures for identifying INAS expressions and the distinct dimensions of the self.

3.1 Data and methodology

The CNSTTD (Client Narratives, Sessions Transcripts, Trauma Diaries) corpus (Devyllder, 2016) provided a convenient source for identifying INAS expressions, and thus of candidate cutting and breaking metaphors of the self. It consists of 229 discussion threads from a PTSD forum, 3121 narratives of psychotherapy clients, and 2022 transcriptions of Psychotherapy sessions. The compilation of the CNSTTD corpus was motivated by the assumption that cutting and breaking metaphors of the self would be used to refer to the effects of traumatic events and that the people who have suffered from such events are likely to describe these difficult experiences in the safe, and relatively intimate context of a psychotherapy session, an internet forum post, or a personal diary.

Our approach to metaphor identification emphasizes the need for “manual” analysis and the systematic use of the analysts’ intuition. A common objection to this is that such a process is both time consuming and subjective. On-going efforts such as the MetaNet project (David & Matlock, 2018; Stickles, David, Dodge, & Hong, 2016) rather try to automatize the identification of metaphors in large corpora, but even the authors admit limitations. Current scripts are limited to English and to only a few domains (e.g. poverty, gun control, democracy, taxation, etc.). More problematic from our perspective is that the MetaNet architecture is built upon (a version of) Conceptual Metaphor Theory (CMT), which presupposes the existence of a stable system of “conceptual mappings” that are independent of language (Lakoff & Johnson, 1980). This approach emphasizes the notion of (conceptual) *system* at the price of (a) human creativity, (b) the role of language use in meaning-making processes, and (c) the bodily experiences themselves, which are often assumed to be pivotal in at least some publications of cognitive semanticists. A script that ignores (a-c) would thus not be able to identify the creative metaphors, which over time may sediment to become the kind of metaphoremes and systematic metaphors (Cameron & Deignan, 2006) that may be more amenable to automated analysis. So we are skeptical in principle of the possibility of any *fully* automated metaphor identification procedures, which of course does not mean that scripts such as those of MetaNet cannot be useful when augmented with intuition-based analysis.

Thus, for our study of C&B metaphors of the self we extracted a random sample of 150 texts (50 per genre) from the CNSTTD corpus, and subjected them to the identification procedure described in the following sub-section.

3.2 Identifying irreversible non-actual separation (INAS) expressions

Given that separation events are a special kind of (broadly defined) motion events or situations (see Zlatev, Blomberg, & David, 2010), we could identify irreversible non-actual separation (INAS) expressions by modifying the procedure for identifying motion-emotion metaphoremes (Zlatev, Blomberg, & Magnusson, 2012; Jacobsson, 2015; Paju, 2016). In particular, criteria A-E, stated and exemplified below, were used.

A. The sentence with INAS does not express actual separation.

For example, (10) is identified as an INAS expression whereas (11) is not because only the former refers to a change-of-state event leading to a non observable disruption in the continuity of the figure.

(10) *She broke my heart.*

(11) *She broke my arm.*

B. Substitution of the figure expression in an INAS expression can lead to a sentence describing actual separation.

(12) *My mind split in two. → The vessel split in two.*

C. INAS expressions typically involve verbs, but they may include nominalizations.

Based on this criterion, (13) and (14) may be identified as including INAS expressions.

(13) *I'm feeling cracks in my walls that are holding back those floodgates.*

(14) *He had another nervous breakdown.*

As pointed out in Section 2, another key feature of INAS expressions is irreversibility, thus calling for criterion D.

D. The actual separation use of the core phrase (verb or noun) in an INAS expression implies irreversibility.

(15) *You broke my heart.*

(16) *You opened my heart.*

Thus, (16) is not identified as an INAS expression because when used to express actual separation the English verb *open* implies reversible separation, in contrast to *break*. In relation to this, we decided to limit our study to the ten most frequent cutting and breaking expressions found in the corpus: *break, burst, crack, cut, fall apart, rip, shatter, snap, split, tear*.

Finally, since we aimed to identify INAS expressions that could serve as metaphors for the “disrupted self”, we required that what was described as being separated was a dimension of the self, motivating the extra criterion E.

E. The expression of the figure denotes the whole self, part of the self, or the extended self.

- (17) *I'm falling apart* (whole Self)
 (18) *I want to rip my mask off but I cannot, I must be acceptable* (part of the Self)
 (19) *My marriage is broken* (extended Self)
 (20) *My car broke down*

This excludes (20) from the type of INAS expressions that are likely candidates to serve as C&B metaphors for the self. But the use of notions like “part of self” and “extended self” requires justification.

3.3 Different dimensions of the self

One may refer to oneself (in English) using personal pronouns with no specific reference to the dimension of selfhood that is being affected. The self, marked as an undifferentiated whole with the pronouns *me, myself, and I* in (21) and (22) has a certain degree of indeterminacy. This may be linked to the notion of *profile-active zone discrepancy* (Langacker, 2009), allowing expressions denoting what is being profiled to actually refer to an “active zone” of this profile in a particular context.

- (21) *I can't hold back and be cautious anymore, all this anxiety and fear is tearing me apart and just making me even more angry.*
 (22) *It's as though I were split in two; one part of me for communicating with the environment, the other for talking to myself.*

Events affecting the self are often expressed in discourse with a certain discrepancy between what the linguistic expression profiles, and what *dimension* of the self is being referred to. This level of indeterminacy can be overridden by cues found in the co-text, by the context, or by shared encyclopedic cultural knowledge. In (21) and (22) the expressions profile the experiencer of these events as a whole. Yet, these INAS events arguably affect distinct dimensions of the self.

We considered using philosophical or psychological taxonomies of these dimensions, but we wanted to avoid the pitfalls of an exclusively top-down approach leading to clear-cut *a priori* categories. Establishing such and labeling them with culturally loaded English terms makes the analyst run the risk of pigeonholing abstract and complex domains of experience. Yet, any scientific inquiry implies making generalization that can be applied in other studies, and this necessitates the categorization of different kinds of linguistically described experiences into types. To overcome this methodological obstacle and propose a typology that is as accurate as possible, we applied a local version of the conceptual-empirical loop, described in the introduction, by looking at our corpus sample line by line, identifying what dimension of the self is being described (i.e. the empirical side of the loop), and as we go on group together expressions that seem to refer to the same thing. Only then, when clearly distinct clusters emerged could we identify distinct types of self-dimensions (i.e. back to the conceptual side of the loop).

For instance, *tearing me apart* in (21) refers to an experience that was described in many other INAS expressions applied to the self, i.e., utterances that contained expressions that conform to criteria A-E. This can be broadly identified as the result of a change-of-state event that has affected the *emotional integrity* of the protagonist. The cues found in the co-text (i.e. *anxiety, fear, angry*) support this interpretation. The experience that the expression *split in two* described in (22) also involves a disruption in the integrity of the self, but not so much emotional per se, but rather *mental integrity*. All in all, we identified four types of self-dimensions described as affected by INAS expressions, illustrated in (23) to (26), and motivated in the following sub-section.

- (23) *I was heartsick and broken like a dry twig.* (Emotional integrity)
 (24) *I had a severe nervous breakdown.* (Mental integrity)
 (25) *I must find my mask, it keeps falling apart.* (Social integrity)
 (26) *My parents split up.* (Interpersonal integrity)

The term “integrity” presupposes a positively affected emotional state of well being, transparently described by the English phrase *feeling whole*, and used in an authentic example taken from the CNSTTD corpus in (27).

- (27) *I felt happy and I felt complete and I felt as whole as I could be.*

The self’s emotional integrity may be understood as *the continuity of an emotional state of wholeness*. This is what is disrupted by a non-actual breaking apart event in (23). The contextual information (i.e. being heartsick) allows us to override the indeterminacy of the first person pronoun and rather unambiguously identify the relevant dimension as that of emotional integrity.

On the other hand, INAS expressions like that in (28) refer to a breaking event (i.e. *fragmenting*) that is affecting something else than a state of emotional integrity. Arguably, this is a type of *mental integrity*, which can be defined as *the continuous state of soundness, rationality, and healthiness of the human mind*.⁴

- (28) *I feel fragmented. I feel like not me, and the times when I am most like me, it seems to not fit with anything acceptable, conventional, sensical, or reasonable.*

A different self-dimension that can be described as disrupted is that of *social integrity*, figuring in the INAS expression in (29).

- (29) *I will try to be positive anyway. Doctors later and then dinner at Dad's. Must find my mask, it keeps falling apart just lately and I really need to keep it together.*

Here the speaker's social self is described as a *mask* that keeps *falling apart*. In terms of Brown and Levinson's (1978, 1987) notion of "face" and Higgins (1989)'s self discrepancy theory, what the speaker attempts to preserve is the continuity between *the ought self* and *the actual self*, a relation that is negotiated in most social interactions. The notion of face implies that a specific set of behaviors, attitudes, and reactions have to match the expected conventions of a given culture and situated norms of a given type of context. For instance, the co-participants of a social interaction would experience outbursts of strong emotions as "face threatening acts" (Brown & Levinson, 1987) in many cultures. This social convention inevitably leads to self-discrepancy because, on the one hand, an adult person is expected not to cry in public (i.e. *the ought self*), but on the other hand, if that person actually experiences intense sorrow, the urge to cry (i.e. *the actual self*) would need to be repressed. In (29) the INAS expression seems to refer to this experience of self-discrepancy between what the speaker is supposed to feel, and what he actually feels. This discrepancy can be quite painful as graphically described in (30) and (31) by two speakers who also use the mask artifact to refer to the ought self as hiding the actual self behind.

- (30) *Smiling on the outside, barbed on the inside. It sits upon my face, every time I move it hurts me a little more, every smile lets the barbs cut deeper.*

- (31) *All the while I smile and joke, my mask hiding the pain beneath, one day it will cut deep enough it cannot be removed and I will forever be a false me.*

4. Janet (1973 [1889]: 457) describes both the distinction and relation between emotions and 'the mental' in similar terms: "Emotion has a decomposing action on the mind, reduces its synthesis and makes it, for the moment, wretched. Emotions, especially depressive ones such as fear, disorganize the mental synthesis; their action, so to speak, is analytic, as opposed to that of the will, of attention, of perception, which is synthetic."

INAS expressions of the self's social integrity do not necessarily imply the notion of face but always refer to change-of-state events affecting the integrity of a whole formed by *the continuity of the ought and the actual*. Such expressions are also frequently recruited in English to describe experiences of inner conflicts as illustrated in (32).

(32) *I was **torn** with inner conflicts and did not know what to decide.*

A rather different type of self-dimension that is described as affected by INAS expressions is that of *interpersonal integrity*, as shown in (33–34).

(33) *I **cut myself off** from my family.*

(34) *We **broke up** like civilized people.*

In (33) and (34) the prototypical C&B English verbs *cut* and *break* refer to two change of-state events that seem to affect the integrity of *a super-individual self composed of several selves* (e.g. a family in (33), a couple in (34)).

These four types of self-dimensions covered the vast majority of the INAS expressions identified in the sample: 289 out of the 314 instances found. However, 25 instances fulfilled the A-E criteria given above, but did not fit into these four types, and were coded as 'other'. Further investigation may allow us to determine if the group can be broken down into additional self-dimension categories. Several tokens can already be grouped together. For instance, 9 INAS expressions describe the speaker's intention to disrupt the continuity of a habit, or of a character's trait, as in (35) and (36).

(35) *We seem to be locked in a circular pattern that must be **broken**.*

(36) *I was put in hospital to **break** the habit.*

A habit, or a personal trait is arguably part of the self, as it can potentially define an individual's personality. Another group that is represented in the 'other' category are expressions describing change-of-state events leading to *physical* disruption in the continuity of a figure in an irreversible manner, but one that remains *non observable* (giving a hyperbolic sense to these expressions), as those shown in (37) and (38).

(37) *His hands holding my wrists (...) **crushing** me, **ripping** me.*

(38) *The pain **tears** through my rib cage and halts my attempt to breathe.*

In this case, the INAS expressions (7 in the sample) are used to refer to a traumatizing physical sensation or intense pain event. A third type referred to disruption in the speaker's concentration on a task, as illustrated by (39).

(39) *I did not want her concentration to be broken.*

We could call this *intellectual integrity*, as disruption affects the speaker's intellectual capacity to focus, or understand a problem. However, the few instances of this type of INAS expressions in the data (only two) motivated us to include them in the 'other' category.⁵

In sum, this analysis gave rise to the following categories, which were given with definitions and examples to two independent annotators who were to apply them to the 314 instances in the sample.

- i. The self's emotional integrity: *the continuity of an emotional state of wholeness.*
- ii. The self's mental integrity: *the continuous state of soundness, rationality, and healthiness of the human mind.*
- iii. The self's social integrity: *the continuity of the ought self and the actual self.*
- iv. The self's interpersonal integrity: *a super-individual self composed of several selves.*
- v. Other: *neither of the above*

While the categories were defined on the basis of intuition, this does not make the analysis "subjective", as intuition unlike introspection is in principle intersubjective (Itkonen, 2008b; Zlatev, 2016). One way to assess this is to measure the variability of coding the data by independent annotators. If the categories are intuitive, then the annotators' annotations should be maximally shared. In contrast, if they are not clear enough or do not accurately describe the phenomena under investigation, there should be considerable variation. This variability of interpretation can be measured with the kappa coefficient (Cohen, 1960).

After the two annotators coded the self-dimension types of the 314 INAS expressions it was found that their agreement was *substantial* with a k coefficient of 0.796, which is very close to reach the *near perfect agreement* threshold of $k = 0.8$ (Landis & Gary, 1977).⁶ As a second step in the process, the two annotators discussed the instances where they disagreed, and reached agreement, after so-called "reconciliation". The results of the analysis described in the following section are based on the fully reconciled dataset.

5. It is worth noting that quite a few expressions of the intellectual integrity kind were identified as non-actual separation expressions but not as INAS expressions, consisting of verbs that described separation events that were not irreversible, such as *scatter*.

6. This score was obtained before reconciling the disagreements, which counts as "reliability data proper" (Krippendorff, 2013; Pöldvere, Fuoli, & Paradis, 2016).

4. How: Probing the data with quantitative tools

The following sub-sections are devoted to the quantitative analyses of the corpus data described above.

4.1 Representativeness

One could perhaps question the representativeness of the CNSTTD corpus due to its specificity and its relatively small size (compared, for example, to the 100-million word BNCweb). There could be many more INAS expressions in proportion to actual separation expressions in the CNSTTD corpus than in the BNCweb, in the same way that there could be proportionally more “cutting and carving” expressions in *Carpenter Magazine* than in general. If this were to be the case, then our findings would arguably be limited to a specific portion of the population (i.e., people who have suffered from various kinds of traumatic experiences). It would also prevent us from generalizing about INAS expressions and metaphors of the self within the general population of English speakers.

To address this issue, we compared the proportion of the actual vs. non-actual separation expressions found in the CNSTTD corpus and in the BNCweb. As mentioned in the previous section, the data used for the present study is based on a True Random Number Generated sample (Haahr, 2010) of 150 texts from the CNSTTD corpus. Within this sample we used the identification procedure described in Section 3.2 to analyze all instances of *break*, *burst*, *crack*, *cut*, *fall apart*, *rip*, *shatter*, *snap*, *split* and *tear* (the ten most frequent cutting and breaking expressions found in the corpus), and to determine if these instances expressed actual separation (AS) or irreversible non-actual separation (INAS). Further, we used the same randomizing algorithm and extracted 500 expressions that contained the same verbs (i.e. 50 expression per verb). 78% (541) of the 695 expressions found in the CNSTTD corpus were INAS expressions, and 22% were AS. In comparison, 70% of the 500 expressions with “cutting and breaking” verbs from the BNCweb were INAS, and 30% were AS expressions. As these proportions are quite similar, we may consider the results of our analyses to be representative for the larger population of English speakers.

4.2 Correlations between INAS expression types and self-dimension types

Out of 541 INAS expressions in our sample, 314 (58%) fulfilled all five criteria described in Section 3.2, and qualified as possible metaphors for the disrupted self.⁷ These were then analyzed for the self-dimensions defined in Section 3.3. The distribution of possibly metaphorical INAS expression types over self-dimension types is shown in Table 1.

Table 1. The distribution of irreversible non-actual separation (INAS) expressions applied to the self over self-dimension types in the CNSTTD sample

INAS type	Emotional integrity	Mental integrity	Social integrity	Interpersonal integrity	Other	Total
<i>break</i>	21	94	4	30	17	166
<i>burst</i>	17	0	0	0	0	17
<i>crack</i>	2	7	1	0	0	10
<i>cut</i>	7	3	2	13	2	27
<i>fall apart</i>	0	15	1	1	0	17
<i>rip</i>	5	1	1	0	2	9
<i>shatter</i>	1	3	0	1	1	6
<i>snap</i>	14	8	0	0	0	22
<i>split</i>	0	18	1	6	0	25
<i>tear</i>	2	6	3	1	3	15
Total	69	155	13	52	25	314

The English verbs *burst*, *crack*, *cut*, *fall apart*, *rip*, *shatter*, *snap*, *split*, and *tear* all denote a change-of-state event leading to a disruption in the continuity of a figure (i.e. separation) in their basic, physical sense. If separation in general were the dominant semantic component motivating the use of INAS expressions concerning emotional, mental, social and interpersonal integrity, then we could expect the ten types of separation verbs to be interchangeable across the different types of self dimensions. This means that it would equally make sense for a native English speaker to use *break* to describe an event affecting one's emotional integrity, mental integrity, social integrity, or interpersonal integrity. As can be seen in Table 1, expressions of the *break* type are indeed used to refer to all self-dimensions, though with different frequency in the distinct categories.

It would however be erroneous to jump to the conclusion that the two variables (separation type and self-dimension type) are correlated based on such "naked eye"

7. The remaining 227 (42%) were identified as non-actual separation expressions that were affecting a figure other than the self (e.g. *my car broke down*).

observations. We need to take into account the frequencies of all the separation types across self-dimensions, as well as the frequencies of all self dimension types across separation types. For instance, there are only 13 INAS expressions referring to the social integrity self-dimension compared to the 155 expressions referring to the mental integrity self-dimension.

We used Pearson's Chi-square test to evaluate how likely it is that the distribution of the categorical data shown in Table 1 could be due to chance.⁸ The results showed that the null hypothesis could be rejected, i.e., that the interdependence of both variables is strongly significant (p-value = 0.000).⁹ In order to further confirm the validity of the correlation between INAS expression types and self-dimension types, we performed a chi-square residual analysis (e.g. Delucchi, 1993).¹⁰ This showed which cells in Table 1 provide most supporting evidence for the dependency of our two variables (see Appendix A for the results of the analysis).

Figure 2 shows the level plot of the chi-square residual analysis. The grey color indicates that the frequencies of INAS expressions in these cells were within the range of the estimated expected frequencies if the variables were independent. In other words, the observed data of these grey cells (e.g., the four *break* metaphors used to refer to the social dimension) did not contribute to the strong dependency of the two variables. The cells with frequencies of INAS expressions that did contribute to the magnitude of the chi-square result (i.e., showing the strong association of separation types and self-dimension types) are colored in red (=frequency above estimated expected frequency) and in blue (=frequency below estimated expected frequency).

Figure 2, for example, indicates that *break* INAS expressions tend to refer to events affecting the mental self-dimension, while *burst* to the emotional self-dimension, and *cut* to the interpersonal self-dimension. Thus, the distribution of the expressions is not random, and their use in describing the various experiences reflecting a disrupted self is on the whole *motivated*. In other words, there is "something" in the physical events described by the English verbs *break*, *burst*, *cut*, *fall apart*, *rip*, *snap*, *split*, and *tear* that motivates their use to describe an event affecting a specific dimension of the self. Since "transfer" of meaning from one

8. This test compares the observed data to a model that distributes the data according to the expectation that the variables are independent. Whenever the data does not fit this model, the independence of both variables weakens, hereby proving the null hypothesis false.

9. $X^2 = 174.0236$, $df = 36$, $p\text{-value} < 2.2e-16$

10. This analysis identifies the specific cells of the contingency table that are the most responsible for the result of the chi-square test. Agresti & Franklin (2007, p. 38) explain that "a cell-by-cell comparison of observed and estimated expected frequencies helps us to better understand the nature of the evidence. [Cells with large residuals] show a greater discrepancy than we would expect if the variables were truly independent".

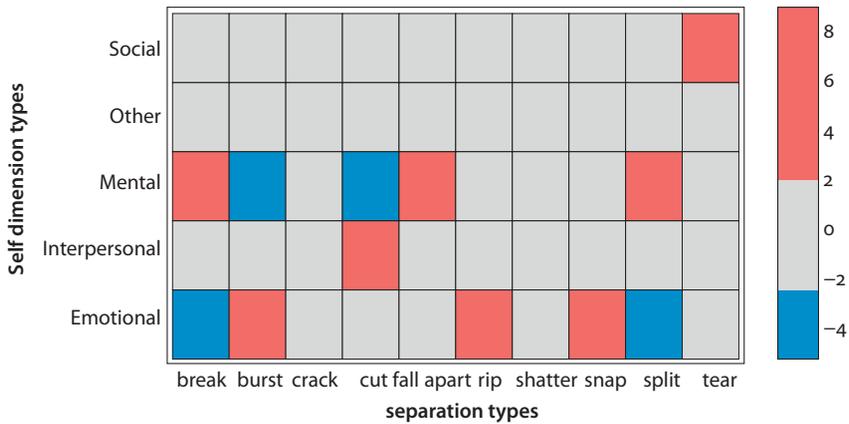


Figure 2. Level plot of the chi-square residuals analysis

domain of experience to another is the uncontroversial characteristic of metaphor, we may regard this as evidence that (many of) the INAS expressions studied have indeed been used metaphorically, i.e. as *cutting and breaking metaphors of the self*. However, we cannot state this with certainty, and one of the reasons for this is that we have as yet not provided an explicit definition of metaphor.

This leads us back to the questions that we posed in our earlier discussions: What do we mean by “metaphor” and how do language use, cultural, and bodily experience participate in metaphorical meaning making? To answer such general questions, we need a theoretical model, and earlier we expressed reservations concerning one of the dominant models in the current literature, Conceptual Metaphor Theory (CMT). In the following section, therefore, we approach these questions with the help of the model that was informally introduced at the onset of this chapter, the Motivation & Sedimentation Model (MSM), and show how it may help explain the nature of cutting and breaking metaphors of the self.

5. What, Why and How: MSM and cutting and breaking metaphors of the self

A general theory of metaphor should be able to account for universal tendencies “to treat one thing in terms of another” as well as for extensive cross-cultural and cross-linguistic variation. Further, it should be able to apply to the dynamics of metaphor use, and not just to static systems or “mappings”. Methodologically, it requires clear theoretical and operational definitions, allowing us both to distinguish metaphor and other types of figuration, such as metonymy and hyperbole, and to analyze their combination and interaction. Ultimately, it needs to apply not only to language, but

also to other semiotic systems such as gesture and depiction, and to combinations of these in polysemiotic communication (Zlatev, 2019).

This is a long list of requirements, but we would claim that the Motivation & Sedimentation Model (MSM) comes a good distance to fulfilling them. With roots in *phenomenology* (Husserl, 1970 [1900]; Merleau-Ponty, 1962) and *integral linguistics* (Coseriu, 1985, 2000), it distinguishes between three fundamental levels of meaning making and links these with two basic relations with several sub-divisions: *motivation* and *sedimentation*. It has recently been applied to the understanding of *language norms* (Zlatev and Blomberg, 2019) and to the debate on *linguistic relativity* (Blomberg and Zlatev, in press), showing how a pluralistic ontology of (above all) language can help resolve complex theoretical disputes.

The three levels of the model are the following ones. The *Embodied level* consists of non linguistic, cognitive, and experiential processes and structures such as the body-schema and body image (Gallagher, 2005), bodily mimesis (Donald, 1998), emotions (Foolen, Lüdtke, Racine, & Zlatev, 2012), categorization (Rosch, 1977) and analogy-making (Gentner & Markman, 1997). The *Sedimented level* is that of social and linguistic norms (Itkonen, 2008a), culture-specific gestures (Kendon, 2004), writing systems and symbolic notations (Donald, 2001; Goody, 1977), which are all relatively stable, socio-cognitive structures that serve as “tools” for thought and communication (Vygotsky, 1978). The *Situated level*, on the other hand, is that of live social interaction, spontaneous language use, and improvisation, or to use the catchy phrase of Hutchins (1995), “cognition in the wild”. In semiotic terms, it is the level of *sign processes*, where expressions (in any semiotic system) are subject to interpretation and play, being highly dependent on the immediacy of the situation.

Crucially, MSM emphasizes that none of these levels is autonomous, as they stand in constant interaction through the two main operations. The *motivation* operation, inspired by the *Fundierung* relation in phenomenology (Merleau-Ponty, 1962), is that which links primarily the embodied and situated levels, in an “upward” direction: the (potentially) universal experiential and cognitive processes are necessary for the local and contextual significations to arise. In a second step, the situated sign activities become *sedimented* “downward” through use and iteration into the more or less elaborate structures of the Sedimented level. These in their turn co-motivate future sign processes, which are thus in practice never *fully* novel and creative, as they also presuppose more or less sedimented norms (Blomberg & Zlatev, in press). There are more aspects to the model, including distinctions between more static (structural) and more dynamic (process) aspects on each level, but this description, illustrated in Figure 3, will suffice for present purposes.

What does this cognitive-semiotic model imply about metaphor in general, and about our particular phenomenon, cutting and breaking metaphors of the self, in particular? Let us start with the more general question. First, it states that

metaphors are fundamentally *signs*, rather than “mappings” or any other kind of cognitive structures and processes that could be motivating the existence and use of these signs. Second, and in line with the tradition, MSM claims that metaphors are primarily *iconic* (i.e. resemblance-based) signs, but not like pictures or onomatopoeic expressions, where the resemblance is between expression and content, but between the *contents* of two signs: a more directly given (“source”), and a more relevant for the context (“target”). Third, and perhaps most originally, MSM can explicate the increasingly popular notion of *metaphoricity* (given that it is becoming generally acceptable that there is no rigid line between “metaphorical” and “literal”): *the degree to which a particular use of an expression is metaphorical (on the situated level) is proportional to the degree to which iconicity (analogy) on the embodied level is involved in the interpretation process.* We may illustrate these points with the examples in (40) and (41).

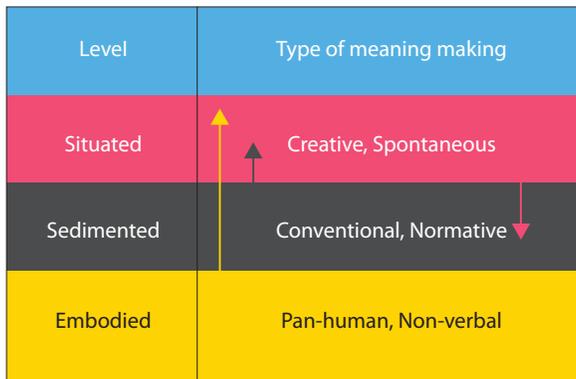


Figure 3. The Motivation & Sedimentation Model of meaning making, with upward motivation relations, and downward sedimentation relation

(40) *You are such a pig.*

(41) *You are a lovable hippopotamus.*

The use of the expression *pig* in an utterance like (40) is far from novel, as it is sedimented from countless such usages, and is given a corresponding sense in any dictionary of English, e.g., “an insulting word for someone who behaves in an unpleasant way” (*MacMillan Dictionary*, 2018). This would correspond to a highly conventionalized *metaphoreme* in the sense of Cameron and Deignan (2006) or a *metaphorical category* in the sense of Bowdle and Gentner (2005). But this “extended” sense of *pig* co-exists with that of “an animal with no fur and a curly tail kept by farmers for its meat”, along with all the cultural associations that go with it. What makes the extended and contextually appropriate sense of *pig* in (40)

metaphorical is: (a) the tension that arises from the co-activation of both senses, leading to interaction and “transfer” between them, and (b) that there is some very schematic iconicity (resemblance, analogy) between the two senses, highlighting (depending on context) aspects such as GREED, BELLIGERENCE, or IGNORANCE. As it would not be possible to conduct (b) without access to the embodied level, for the sake of analogy-making and categorization, a situated use of (40) that involves both (a) and (b) would have a higher degree of metaphoricity. It is also possible, however, to use (40) at least somewhat metaphorically without (b), thus motivating its use only from the linguistic and cultural conventions on the sedimented level.

In contrast, (41) is a (relatively) novel metaphorical usage of *hippopotamus*, and indeed, it would be hard to find the appropriate sense in an English dictionary. To understand the speaker’s intention, there is no other option but to reflect on the rich meaning of the term, including non-linguistic imagery, and to use analogy (iconicity) in order to transfer meaning to the situated utterance. Thus, (41) is clearly metaphorical on the situated level, and (40) is at least somewhat metaphorical, which corresponds to the analysis of, respectively, novel and conventional metaphors in the *Career of Metaphor* model (Bowdle & Gentner, 2005).

But some expressions on the sedimented level that may have initially developed through metaphorical processes, such as *foot*, evoke neither tension (as the “primary” senses are marginal) nor require any analogy-making, and are hence in almost all instances of situated use to be regarded as non-metaphorical. Still, as argued by Müller (2008), it is more appropriate to use the more novel metaphor “sleeping”, than the more conventional “dead”, to describe such expressions, as the possibility for their metaphoricity to be activated again remains, as also pointed out by Lakoff and Johnson (1980). To the extent that the embodied level cannot be reasonably claimed to be involved, or if it does not motivate the use of the expression though iconicity (analogy), then we are simply not dealing with metaphor.

The MSM model thus leads us to the following definition of metaphor: *a sign in a given semiotic system (or a combination of systems) with (a) at least two different potential interpretations, (b) standing in an iconic relationship with each other, where (c) one interpretation is more relevant in the communicative context, and (d) can be understood in part by comparison with the less relevant interpretation.*

This definition is promising for a general theory of metaphor, as it may integrate notions and findings from conflicting perspectives. In agreement with the discourse dynamic view, we may state that on the Situated level “metaphors [...] should be regarded as a process of meaning construal in which new metaphoric expressions dynamically emerge, are elaborated, and are selectively activated over the course of a conversation” (Kolter et al., 2012, p. 221). But as argued, this level is not sufficient, as most metaphor use (in language) also requires conventional structures such as metaphoremes (and grammatical constructions in general), as well as pan-human structures and processes of embodied (inter)subjectivity, grounding

meaning-making in interaction with others and the world. The latter is in accordance with the views of most cognitive linguists, but without assuming the existence of stable conceptual mappings across conceptual domains, in the manner of CMT.

Having answered the general question posed at the end of the previous section (what do we mean by “metaphor” and how do language use, cultural, and bodily experience participate in metaphorical meaning making?), we may now return to our empirical phenomenon: cutting and breaking metaphors of the self. It should by now have become clear why we emphasized that all of the irreversible non-actual separation (INAS) expressions applied to one or another dimension of the self were only *potentially* metaphorical. This is so, since even though all examples were taken from a corpus of carefully collected language use that is relevant for the “target domain”, we cannot know without delving into the (imagined) situated communicative experiences of those who composed these expressions, and those who read them, whether one or another use of an INAS expression (a) evokes tension and (b) requires iconicity/analogy making. Demonstrating significant correlations between expression types and self-dimensions in Section 4 and showing some motivation behind the use of INAS expressions leads to the inference that their metaphoricity is probable. But looking back at specific examples, it is rather clear that some are better candidates for situated metaphors than others. Consider again examples (38) and (39), repeated as (42) and (43). The imagery expressed by (42) is quite vivid, and as in our initial Example (1), we can reasonably suppose that the author is evoking the Embodied level, and using an irreversible separation expression that she finds to be most analogous to what she is in fact experiencing. In (43), in contrast, the use of the verb *break* hardly evokes any tension at all, and expresses little more than its extended sense “disrupt”. The fact that the INAS expression type with the verb *break* accounts for about half of the instances in the sample (see Table 1) supports the conclusion that if this is indeed metaphorical, it has a low degree of metaphoricity.

(42) *The pain tears through my rib cage and halts my attempt to breathe.*

(43) *I did not want her concentration to be broken.*

Thus, the most promising way to gain further evidence for the metaphoricity of INAS expressions related to the self is by obtaining and analyzing evidence from discourse that is richer with respect to the context of situation, which seems to be the general direction metaphor research is moving (Boström, 2018). This would also require returning to the “how” question, and providing identifications procedures that are more context-sensitive than what we presented in Section 2, operationalizing notions such as “tension” and “iconicity” based on systematic intuitions. This may seem to be a perilous path in the view of some researchers, but we hope to have shown that it is a possible one, and arguably one that is necessary for understanding both complex and controversial notions such as metaphor.

6. Conclusions

In this chapter, we pursued three separate but interrelated goals. First, we aimed to gain a better understanding of a common phenomenon in English (and many other languages): the use of expressions of irreversible separation – commonly known as “cutting and breaking” – to speak about the self or some of its aspects or dimensions. We showed that there has been surprisingly little attention devoted to such expressions, and to the question of whether they should be treated as metaphorical, and if so, how.

In trying to fill this gap, we were lead to the second goal of the study: to develop identification and classification procedures based on reliable intuitions, and to apply these to language use that is as likely as possible to reflect the speakers’ experiences. The CNSTTD corpus provided us with the necessary data, while we extended previous work on non-actual motion and motion-emotion metaphors to explicate the necessary concepts, and to develop the necessary protocols. In the process, the notion of irreversible non-actual separation (INAS) proved to be a convenient intermediary step. Similarly to non-actual motion sentences like *the path leads to the top*, INAS expressions applied to the self like *I broke into tears* may be analyzed as metaphors, but do not automatically imply such an analysis, as they are both conventionalized and could be motivated by non metaphorical process (e.g. by a set of sedimented and culturally specific beliefs). Showing that the ten most common “cutting and breaking” verbs in the sample correlated with different dimensions of the self, we confirmed that there is motivation involved, but not definitely that they were metaphorical.

This led us to the third and final goal: to outline a general model of meaning making, the Motivation & Sedimentation Model, to show its implications for metaphor analysis, and to apply it to our empirical phenomenon. The conclusion was that many – if not most – instances of situated use of INAS expressions in the sample would indeed, on a more careful analysis, show evidence of both semantic tension (ambiguity) and resemblance (iconic) relations between the different senses of the cutting and breaking expressions involved, qualifying them as metaphorical. At the same time the model affirmed that metaphoricality is a scalar notion, and provided theoretical criteria for explaining this. A future goal would be to elaborate these into operational criteria, and thus to continue the operation of the conceptual-empirical loop of cognitive semiotics which we have spun several times in this chapter.

Acknowledgements

We wish to thank Elena Faur, Verónica Giraldo, Göran Jacobsson, Joel Parthermore, Göran Sonesson, Georgios Stampoulidis, Björn Torstensson, Joost van de Weijer, and other members of the Division for Cognitive Semiotics in Lund University for help with corpus annotation and comments. We also thank Patrick Duffley, Nina Julich, Dorothea Horst, Paula Pérez-Sobrinho, Eve Sweetser, and Esme Winter Froemel for insightful feedback on conference presentations on this topic.

Funding information

Funded by: Swedish Research Council.

Award ID: 2015–01583.

Statement: The research was in part supported by the project *Phenomenology and Typology of Motion* (PATOM), funded by the Swedish Research Council, grant 2015–01583.

References

- Agresti, A., & Franklin, C. A. (2007). *Statistics: The Art and Science of Learning from Data* (3rd Edition) London: Pearson.
- Andrén, M. (2010). Children's gestures from 18 to 30 months. PhD Dissertation, Lund, Lund University.
- Blomberg, J. (2015). The expression of non-actual motion in Swedish, French and Thai. *Cognitive Linguistics*, 26(4), 657–696. <https://doi.org/10.1515/cog-2015-0025>
- Blomberg, J., & Zlatev, J. (2014). Actual and non-actual motion: Why experientialist semantics needs phenomenology (and vice versa). *Phenomenology and the Cognitive Sciences*, 13(3), 395–418. <https://doi.org/10.1007/s11097-013-9299-x>
- Blomberg, J., & Zlatev, J. (in press). Metalinguistic relativity. Does one's ontology determine one's view on linguistic relativity. *Language and Communication*.
- Boström, P. (2018). "Det här är ju dött tåg liksom...": en studie av metaforer för ROMANTISK KÄRLEK i talad svenska. Umeå: Umeå University.
- Bouveret, M., & Sweetser, E. (2009). *Multi-frame semantics, metaphoric extensions and grammar*. Paper presented at the Annual Meeting of the Berkeley Linguistics Society. <https://doi.org/10.3765/bls.v35i1.3597>
- Bowdle, B. F., & Gentner, D. (2005). The career of metaphor. *Psychological Review*, 112(1), 193. <https://doi.org/10.1037/0033-295X.112.1.193>
- Brandt, L. (2013). *The communicative mind: A linguistic exploration of conceptual integration and meaning construction*. Newcastle: Cambridge Scholars.
- Brown, P., & Levinson, S. C. (1978). Universals in language usage: Politeness phenomena. In *Questions and politeness: Strategies in social interaction* (pp. 56–311). Cambridge University Press.

- Brown, P., & Levinson, S. C. (1987). *Politeness: some universals in language usage*. Cambridge: Cambridge Univ. Press. <https://doi.org/10.1017/CBO9780511813085>
- Cameron, L., & Deignan, A. (2006). The emergence of metaphor in discourse. *Applied linguistics*, 27(4), 671–690. <https://doi.org/10.1093/applin/aml032>
- Cohen, J. (1960). A Coefficient of Agreement for Nominal Scales. *Educational & Psychological Measurement*, 20(1), 37. <https://doi.org/10.1177/001316446002000104>
- Coseriu, E. (1985). Linguistic competence: what is it really? *The Modern Language Review*, xxv–xxxv. <https://doi.org/10.2307/3729050>
- Coseriu, E. (2000). The principles of linguistics as a cultural science. *Transylvanian Review (Cluj)*, IX, 1, 108–115.
- Croft, W., & Poole, K. T. (2008). Inferring Universals from Grammatical Variation: Multidimensional Scaling for Typological Analysis. *Theoretical Linguistics*, 34(1), 1–37. <https://doi.org/10.1515/THL1.2008.001>
- Daddesio, T. C. (1995). *On minds and symbols: The relevance of cognitive science for semiotics*. Berlin: Walter de Gruyter. <https://doi.org/10.1515/9783110903003>
- David, O., & Matlock, T. J. L. (2018). Cross-linguistic automated detection of metaphors for poverty and cancer. *Language and Cognition*, 10(3), 467–493. <https://doi.org/10.1017/langcog.2018.11>
- Delucchi, K. L. (1993). On the use and misuse of chi-square. In G. Keren & C. Lewis (Eds.), *A handbook for data analysis in the behavioral sciences* (pp. 295–320). Hillsdale, NJ, US: Lawrence Erlbaum.
- Devylder, S. (2016). *The PART-WHOLE schema we live through: A cognitive linguistic analysis of part-whole expressions of the self*. Lyon: Lyon 3 University.
- Devylder, S. (2017). Cutting and Breaking the Embodied Self *Cognitextes*, 16. <https://doi.org/10.4000/cognitextes.886>
- Devylder, S. (2018). Diagrammatic iconicity explains asymmetries in Paamese possessive constructions. *Cognitive Linguistics*, 29(2), 313–348. <https://doi.org/10.1515/cog-2017-0058>
- Donald, M. (1998). Mimesis and the executive suite: Missing links in language evolution. In J. R. Hurford, M. Studdert-Kennedy, & C. Knight (Eds.), *Approaches to the evolution of language: Social and cognitive biases* (pp. 44–67). Cambridge: Cambridge University Press.
- Donald, M. (2001). *A mind so rare: The evolution of human consciousness*. New York: Norton.
- Fillmore, C. J. (1970). The grammar of hitting and breaking. In *Readings in English transformational grammar*, ed. by Roderick Jacobs and Peter Rosenbaum, 120–33. Washington, DC: Georgetown University Press.
- Foolen, A., Lüdtke, U. M., Racine, T. P., & Zlatev, J. (2012). *Moving ourselves, moving others: Motion and emotion in intersubjectivity, consciousness and language*. Amsterdam: John Benjamins. <https://doi.org/10.1075/ceb.6>
- Fujii, S., Radetzky, P., & Sweetser, E. (2012). *Separation Verbs and Multi-frame Semantics*. Paper presented at the 11th Conceptual Structure, Discourse, and Language Conference, Vancouver, British Columbia.
- Gallagher, S. (2005). *How the body shapes the mind*. Oxford: Oxford University Press. <https://doi.org/10.1093/0199271941.001.0001>
- Gentner, D., & Markman, A. B. (1997). Structure mapping in analogy and similarity. *American psychologist*, 52(1), 45. <https://doi.org/10.1037/0003-066X.52.1.45>
- Giraldo, V. (2018). *Referential iconicity in music and speech within and across sensory modalities*. (MA), Lund, Lund University.

- Goody, J. (1977). *The domestication of the savage mind*. Cambridge University Press.
- Guerssel, M., Hale, K., Laughren, M., Levin, B., & Eagle, J. W. (1985). A cross-linguistic study of transitivity alternations. In P. D. K. W. H. Eilfort, & K. L. Peterson (Ed.), *Papers from the parasession on causatives and agentivity at the 21st regional meeting* (Vol. 21, pp. 48–63). Chicago: Chicago Linguistic Society.
- Haahr, M. (2010). RANDOM.ORG: True Random Number Service.
- Higgins, E. T. (1989). Self-discrepancy theory: What patterns of self-beliefs cause people to suffer. *Advances in experimental social psychology*, 22, 93–136.
- Husserl, E. (1970 [1900]). *Logical Investigations*. New York, NY: Humanities Press.
- Hutchins, E. (1995). *Cognition in the Wild*. Cambridge, Mass.: MIT press.
- Itkonen, E. (2008a). The central role of normativity in language and linguistics. In *The shared mind: Perspectives on intersubjectivity* (pp. 279–306). Amsterdam: Benjamins.
<https://doi.org/10.1075/celcr.12.16itk>
- Itkonen, E. (2008b). Concerning the role of consciousness in linguistics. *Journal of Consciousness Studies*, 15(6), 15–33.
- Jacobsson, G. (2015). *Motion-emotion metaphors in English, Swedish and Spanish: A cross-linguistic comparison*. (BA), Lund University, Lund.
- Kay, P., & Regier, T. (2003). Resolving the Question of Color Naming Universals. *Proceedings of the National Academy of Sciences of the United States of America* (15), 9085.
<https://doi.org/10.1073/pnas.1532837100>
- Kendon, A. (2004). *Gesture: Visible action as utterance*. Cambridge: Cambridge University Press.
<https://doi.org/10.1017/CBO9780511807572>
- Kolter, A., Ladewig, S. H., Summa, M., Müller, C., Koch, S. C., & Fuchs, T. (2012). Body memory and the emergence of metaphor in movement and speech. *Body, Metaphor, Movement, Advances in Consciousness Research*, 84, 201–226. <https://doi.org/10.1075/aicr.84.16kol>
- Konderak, P. (2018). *Mind, cognition, semiosis: Ways to cognitive semiotics*. Lublin: UMCS Press.
- Krippendorff, K. (2013). *Content analysis: an introduction to its methodology*. Thousand Oaks, Calif.: London.
- Lakoff, G. (1996). Sorry, I'm not myself today: The metaphor system for conceptualizing the self. In G. F. E. Sweetser, Brugman, C. M., Lakoff, G., Matsumoto, Y., Mejias-Bikandi, E., Michaelis, L. A., Rubba, J. (Ed.), *Spaces, worlds, and grammar* (pp. 91–123). Chicago: University of Chicago Press.
- Lakoff, G., & Johnson, M. (1980). *Metaphors we live by*. Chicago: University of Chicago Press.
- Lakoff, G., & Johnson, M. (1999). *Philosophy in the Flesh*. New York, NY: Basic books.
- Landis, J. R., & Gary, G. K. (1977). The Measurement of Observer Agreement for Categorical Data. *Biometrics* (1), 159. <https://doi.org/10.2307/2529310>
- Langacker, R. W. (2009). *Investigations in cognitive grammar*. New York, NY: Mouton de Gruyter.
<https://doi.org/10.1515/9783110214369>
- Levin, B. (1993). *English verb classes and alternations: A preliminary investigation*. Chicago: University of Chicago press.
- Levin, B., & Rappaport Hovav, M. (1995). *Unaccusativity: At the Syntax-Lexical Semantics Interface*. Cambridge, Ma: MIT Press.
- Levin, B., & Rappaport Hovav, M. (2011). Lexical conceptual structure. In K. von Stechow, C. Maienborn, & P. Portner (Eds.), *Semantics: an International Handbook of Natural Language Meaning* (pp. 418–438). Berlin: DeGruyter Mouton.
<https://doi.org/10.1515/9783110226614.420>

- Levinson, S., & Meira, S. (2003). 'Natural Concepts' in the Spatial Topological Domain: Adpositional Meanings in Crosslinguistic Perspective: An Exercise in Semantic Typology. *Language: Journal of the Linguistic Society of America*, 79(3), 485–516. <https://doi.org/10.1353/lan.2003.0174>
- Majid, A., Bowerman, M., Van Staden, M., & Boster, J. S. J. C. L. (2007). The semantic categories of cutting and breaking events: A crosslinguistic perspective. 18(2), 133–152. <https://doi.org/10.1515/COG.2007.005>
- Majid, A., Gullberg, M., Van Staden, M., & Bowerman, M. J. C. L. (2007). How similar are semantic categories in closely related languages? A comparison of cutting and breaking in four Germanic languages. 18(2), 179–194. <https://doi.org/10.1515/COG.2007.007>
- Majid, A., Van Staden, M., Boster, J. S., & Bowerman, M. (2004). *Event categorization: a cross-linguistic perspective*. Paper presented at the 26th Annual Meeting of the Cognitive Science Society.
- Merleau-Ponty, M. (1962). *Phenomenology of perception* (Taylor and Francis e-Library, 2005. ed.). New York: Taylor & Francis Group.
- Müller, C. (2008). *Metaphors dead and alive, sleeping and waking: A dynamic view*. Chicago: University of Chicago Press. <https://doi.org/10.7208/chicago/9780226548265.001.0001>
- Paju, L. (2016). *Motion-emotion metaphors in Estonian: A cross-linguistic comparison with Finnish, English and Swedish*. (MA), Lund University, Lund.
- Pöldvere, N., Fuoli, M., & Paradis, C. (2016). A study of dialogic expansion and contraction in spoken discourse using corpus and experimental techniques. *Corpora* (2), 191. <https://doi.org/10.3366/cor.2016.0092>
- Pye, C., Loeb, D. F., & Pao, Y.-Y. (1996). *The acquisition of breaking and cutting*. Paper presented at the The proceedings of the twenty-seventh annual child language research forum.
- Regier, T., Kay, P., & Khetarpal, N. (2007). Color Naming Reflects Optimal Partitions of Color Space. *Proceedings of the National Academy of Sciences of the United States of America* (4), 1436. <https://doi.org/10.1073/pnas.0610341104>
- Rosch, E. (1977). Human categorization. *Studies in cross-cultural psychology*, 1, 1–49.
- Sonesson, G. (2012). The Foundation of Cognitive Semiotics in the Phenomenology of Signs and Meanings. *Intellectica. Revue de l'Association pour la Recherche Cognitive* (2), 207. <https://doi.org/10.3406/intel.2012.1105>
- Stampoulidis, G., Bolognesi, M., & Zlatev, J. (2019). A cognitive semiotic exploration of metaphors in Greek street art. *Cognitive Semiotics*, 12(1).
- Stickles, E., David, O., Dodge, E. K., & Hong, J. (2016). Formalizing contemporary conceptual metaphor theory. *Constructions and frames*, 8(2), 166–213. <https://doi.org/10.1075/cf.8.2.03sti>
- Taylor, J. R. (2007). Semantic categories of cutting and breaking: Some final thoughts. *Cognitive Linguistics*, 18(2), 331–337. <https://doi.org/10.1515/COG.2007.020>
- Thompson, E. (2007). Look again: Phenomenology and mental imagery. *Phenomenology and the Cognitive Sciences*, 6(1–1), 137–170. <https://doi.org/10.1007/s11097-006-9031-1>
- Vygotsky, L. S. (1978). *Mind in society*. Cambridge, Mass: Harvard University Press.
- Zahavi, D. (2014). *Self and other: exploring subjectivity, empathy, and shame*: Oxford: Oxford University Press. <https://doi.org/10.1093/acprof:oso/9780199590681.001.0001>
- Zlatev, J. (2009). The semiotic hierarchy: Life, consciousness, signs and language. *Cognitive Semiotics*, 4, 169–200. https://doi.org/10.3726/81608_169
- Zlatev, J. (2015). Cognitive semiotics. In *International handbook of semiotics* (pp. 1043–1067): Springer. https://doi.org/10.1007/978-94-017-9404-6_47

- Zlatev, J. (2016). Turning back to experience in Cognitive Linguistics via phenomenology. *Cognitive Linguistics*, 27(4), 559–572. <https://doi.org/10.1515/cog-2016-0057>
- Zlatev, J. (2018). Meaning making from life to language: The semiotic hierarchy and phenomenology. *Cognitive Semiotics*, 11(1). <https://doi.org/10.1515/cogsem-2018-0001>
- Zlatev, J. (2019). Mimesis theory, learning and polysemiotic communication. *Encyclopedia of Educational Philosophy and Theory*, Springer. https://doi.org/10.1007/978-981-287-532-7_672-1
- Zlatev, J., & Blomberg, J. (2016). Embodied intersubjectivity, sedimentation and non-actual motion expressions. *Nordic Journal of Linguistics*, 39(2), 185–208. <https://doi.org/10.1017/S0332586516000123>
- Zlatev, J., & Blomberg, J. (2019). Norms of language: What kinds and where from? Insights from phenomenology. In A. Mäkilähde, V. Leppänen, & E. Itkonen (Eds.), *Normativity in language and linguistics* (pp. 69–101). Amsterdam: Benjamins.
- Zlatev, J., Blomberg, J., & David, C. (2010). Translocation, language and the categorization of experience. In V. Evans (Ed.), *Language, cognition, and space: the state of the art and new directions* (pp. 389–418). London: Pegasus.
- Zlatev, J., Blomberg, J., & Magnusson, U. (2012). Metaphors and subjective experience: motion-emotion metaphors in English, Swedish, Bulgarian and Thai. In U. L. A. Foolen, T. P. Racine, J. Zlatev (Ed.), *Moving Ourselves, Moving Others: Motion emotion in intersubjectivity, consciousness and language* (pp. 423–450). Amsterdam: John Benjamins. <https://doi.org/10.1075/ceb.6.17zla>

Appendix A

The results of the *Chi-square residuals analysis* (reported in Section 4.2).

	Emotional	Mental	Social	Interpersonal	Other
Break	-4.2257967	2.72644110	-1.63016489	0.763227170	1.5800740
Burst	7.9885794	-4.18579878	-0.88104784	-1.888696112	-1.2469015
Crack	-0.1532541	1.32659583	0.94534631	-1.431789121	-0.9452553
Cut	0.5186558	-4.15838342	0.89138811	4.618492565	-0.1113066
Fall apart	-2.2498448	3.29621725	0.37075769	-1.217824416	-1.2469015
Rip	2.4686088	-2.32892194	1.06513573	-1.356085853	1.6035399
Shatter	-0.3170343	0.03150871	-0.51398864	0.007063038	0.7953142
Snap	4.8937892	-1.26466058	-1.01081847	-2.166884509	-1.4305592
Split	-2.7658423	2.35976587	-0.03665926	1.043053124	-1.5328759
Tear	-0.8282671	-0.74328912	3.15972494	-1.056372774	1.7650123

